



Natural Risk Mitigation and Cultural Heritage Protection, preliminary outcomes of the ELARCH project

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Earthquakes, droughts, and floods are examples of natural hazards that affect the cultural heritage not only a local scale but a global one as well. ELARCH is a research project having as a goal the mitigation of the natural risk and conservation of cultural heritage. To this aim, we are evaluating different types of heritage with a motivation to a global level through diverse cases studies and the combination of different methodologies and techniques for their preservation over time. In the present work, we presents the experience of assessing the seismic risk of churches, castles and old masonry bridges in southern Italy, the water uses and traditions of the Wayuu indigenous community in Colombia, and the analysis of the bridge pier scour process employing novel stochastic tools allowing to consider both historical and new bridges from a holistic point of view and in a realistic way. Preliminary results highlight the importance of both tangible and intangible heritage, leading to an innovative research framework that allows their protection. Elarch is an Erasmus Mundus project having as priority the multidisciplinary and multi-sectorial approach. In this context, structural and hydraulic engineers, architects, hydrologists, and artists are part of Elarch. The mobility between LatinAmerica and Europe leads to enrich our point of view regarding the real meaning of tangible and intangible cultural heritage. This mobility is carrying out in different levels containing undergraduate, master, and Ph.D. students. In turn, postdocs and staff mobility is also an important task for Elarch.

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